

CLAIMS

1. A concealed housing latch assembly for portable electronic device for
latching a first housing member to a second housing member of the portable electronic
5 device, the housing latch comprising:

at least one catch member disposed on the first housing member extending
away from a rear surface of the first housing member and extending beyond an edge
of the first housing member, the at least one catch member being deflectable and
having a catch opening formed therethrough and having a distal portion;

10 at least one catch feature formed on an inside surface of the second housing
member at a position corresponding with the opening of the at least one catch member
for capturing the at least one catch member;

at least one cantilevered latch release member formed in the second housing
member at a position corresponding to the distal portion of the at least one catch
15 member for deflecting the at least one catch member upon actuating the latch release
member; and

a compliant covering disposed over the second housing member, the compliant
covering concealing the housing latch assembly.

20 2. A concealed housing latch assembly as defined in claim 1, wherein the
compliant covering forms a water seal between the first and second housing members.

3. A concealed housing latch assembly as defined in claim 2, wherein:
the first housing member further comprises a sealing groove disposed along
25 the perimeter a mating edge of the first housing member; and

the compliant covering further comprises a sealing rim having compressible ridge, the sealing rim corresponding to the sealing groove and being wider than the sealing groove at the compressible ridge, and wherein the compressible ridge is compressed upon insertion of the sealing rim into the sealing groove.

5

4. A concealed housing latch assembly as defined in claim 1, wherein the compliant covering is disposed onto the second housing member by an over-molding process.

10

5. A concealed housing latch assembly as defined in claim 1, wherein:

the first housing member further comprises at least one hook member on an opposite side of the first housing member from the catch member; and

the second housing member further comprises at least one hook retaining window corresponding to the at least one hook member for retaining the at least one

15

hook member therein upon assembly of the first housing member to the second housing member.

6. A concealed housing latch assembly as defined in claim 1 wherein:

the at least one catch member comprises two catch members disposed on opposing sides of the first housing member;

20

the at least one catch feature comprises two catch features disposed on opposing sides of the second housing member in correspondence with the two catch members, respectively; and

the at least one latch release member comprises two latch release members disposed in opposing sides of the second housing members in correspondence with the distal portions of the two catch members, respectively.

5 7. A concealed housing latch assembly as defined in claim 1, wherein the at least one catch feature is ramped to facilitate deflection of the at least one catch member.

10 8. A concealed housing latch assembly as defined in claim 1, wherein the at least one catch member is ramped at a distal edge to facilitate deflection of the at least one catch member as the at least one catch member moves past the at least one catch feature.

9. A latch assembly for a portable electronic device, comprising:
a catch member disposed on a first housing member of the operable electronic device;

a catch feature disposed on a second housing member of the portable
5 electronic device for capturing the catch member;

wherein the second housing member comprises a release window formed in
correspondence with a distal portion of the catch member, and a compliant covering
that conceals the release window.

10 10. A latch assembly as defined in claim 9, further comprising a cantilevered
latch release member disposed in the release window for facilitating release of the
catch member from the catch feature upon actuation of the latch release member, the
compliant covering concealing the latch release member.

15 11. A latch assembly as defined in claim 9, wherein the compliant covering
forms a water seal between the first and second housing members.

12. A latch assembly as defined in claim 11, wherein:
the first housing member further comprises a sealing groove disposed along
20 the perimeter a mating edge of the first housing member; and

the compliant covering further comprises a sealing rim having compressible
ridge, the sealing rim corresponding to the sealing groove and being wider than the
sealing groove at the compressible ridge, and wherein the compressible ridge is
compressed upon insertion of the sealing rim into the sealing groove.

25

13. A latch assembly as defined in claim 9, wherein the compliant covering is disposed onto the second housing member by an over-molding process.

14. A latch assembly as defined in claim 9, wherein:

5 the first housing member further comprises at least one hook member on an opposite side of the first housing member from the catch member; and
 the second housing member further comprises at least one hook retaining window corresponding to the at least one hook member for retaining the at least one hook member therein upon assembly of the first housing member to the second
10 housing member.

15. A latch assembly as defined in claim 9, wherein:

 the catch member is a first catch member, the latch assembly further comprises a second catch member disposed on an opposing side of the first housing member
15 form the first catch member;

 the catch feature is a first catch feature, the latch assembly comprises a second catch feature disposed on an opposing sides of the second housing member in correspondence with the second catch member; and

 the release window is a first release window, the latch assembly comprises a
20 second release window disposed on opposing sides of the second housing members from the first release window and in correspondence with the second latch member.

16. A latch assembly as defined in claim 9, wherein the catch feature is ramped to facilitate deflection of the catch member.

25

17. A latch assembly as defined in claim 9, wherein the catch member is ramped at a distal edge to facilitate deflection of the catch member as the catch member moves past catch feature.

18. A front housing for a mobile communication device, the front housing for mating with a rear housing having at least one catch member for latching the front and rear housings together, the front housing comprising:

at least one catch feature disposed on an inside surface of the front housing,
5 and positioned in correspondence with an opening of the at least one catch member for capturing the at least one catch member;

at least one release window formed in a side surface of the front housing located in correspondence with a distal portion of the at least one catch member when the front and rear housings are latched together; and

10 a compliant covering for concealing the at least one release window disposed on an outer surface of the front housing.

19. A front housing for a mobile communication device as defined in claim 18, wherein the compliant covering forms a water seal between the front and rear
15 housings.

20. A front housing for a mobile communication device as defined in claim 19, wherein the rear housing comprises a sealing groove disposed along a perimeter of a mating edge of the rear housing, the front housing further comprising a sealing rim
20 having compressible ridge, the sealing rim corresponding to the sealing groove and being wider than the sealing groove at the compressible ridge, and wherein the compressible ridge is compressed upon insertion of the sealing rim into the sealing groove.

21. A front housing for a mobile communication device as defined in claim 18, wherein the at least one catch feature is ramped to facilitate deflection of the at least one catch member.